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Benzodiazepine self-poisoning in Pakistan: implications for prevention and harm reduction

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Abstract

The pattern of all index admissions for benzodiazepine self- poisoning to a university hospital in Karachi, Pakistan are described. Of the 329 medication self-poisoning cases, 84% were benzodiazepine overdoses. Diazepam was the preferred drug in 69% of these cases, with majority ingesting between 20-30 tablets of 5 mg each, 44% bought the benzodiazepine over the counter (OTC) for the purpose of overdose. The preference for benzodiazepines over analgesics (as freely available) may be related to the motives underlying parasuicide acts and their popularity as 'sleeping pills' in Pakistan. Educating the 'chemist' and limiting the number of tablets dispensed at a time are areas to consider in reducing the incidence and harmful effects of benzodiazepine overdoses in Pakistan (JPMA 48:293,1998).

Introduction

Despite the fact that in many countries the prescription and dispensing of benzodiazepines is strictly controlled, they remain one of the most frequently used drugs in parasuicide acts[1]. In many cases the drugs have been purchased by prescriptions issued to the self-poisoners[2]. Studies have also shown that of the benzodiazepines, diazepam was involved in more suicide attempts as well as suicides than expected from sales figures[2]. It has been postulated that benzodiazepines' administration leads to an increase in aggressive and hostile tendencies[3,4].

Reports of suicide and pamsuicide from Pakistan, a muslim country, where most psychotropics, including benzodiaze7pines are available 'over the counter\' (OTC) have been few[5-7]. Both are considered criminal acts, punishable by law. Due to this and various other social and religious reasons data on both suicide and parasuicide is difficult to obtain in Pakistan[7]. In a recent study from Pakistan[8], benzodiazepine ingestion was found to be the most common method in parasuicide cases. Based on this finding it was decided to study benzodiazepine self-poisoning in more detail. This paper, therefore, explores the pattern of benzodiazepine self-poisoning cases presenting to a university hospital in Karachi, Pakistan.

Patients and Methods

A mtmspective case-note analysis was carried out for all index cases of parasuicides admitted to the Aga Khari University Hospital (AKUH), Karachi between January, 1989 and December, 1994. Data regarding the type ofbenzodiazepine used in the attempt, the number of tablets, their dosage strength arid source of medicine was recorded on a specially devised data extraction formby one of the authors (MMK).

All parasuicide cases admitted to AKUH are referred to the psychiatry department for assessment before discharge. A log book is maintained for all such cases and the medical records department also uses adischaige code. Both sources were used to retrieve the notes during the study period. Data was analyzed using the Epidemiology Information Version 5 (EpiInfo) statistical package. Differences between benzodiazepincs and othervariables were compared using the chi-squared tests. Level of

significance was taken atp value of <0.05.

Results

A total of 447 patients were assessed during the study period. Of these, medication self-poisoning (N=329) accounted for 73%of cases (other27%were physical methods or chemicals agents including organophosphate insecticides). There were more females (60%) than males (40%). Their ages ranged from 15 years to 76 years (mean 27.50 years, SD 10.62). Females (mean age = 25.69 years, SD 8.81) were younger than males (mean age=30.04 years, two percent males and 73% females were under the age of 30 SD 12.33). Sixty years.

Benzodiazepines (N=274) were implicated in 84% of self-medication cases, 91% (N=250) took a single benzodiazepine, while 9% (n=24) in combination with other drugs or alongwith physical methods. Of the single drug benzodiazepine overdose (N=250), diazepam was used by 69%, followed by bromazepani (12%), lorazepam (10%), ternazepam (2%), alprazolam (4%) and others (2%). In the multiple drug overdoses (N=27) similar trend prevailed: diazepam (70%), bromazepam (11%), lorazepam (11%), temazepam(4%), others (4%). Diazepam was involved in 188 (69%) benzodiazepine self-poisoning cases (single, multiple or alongwith physical methods). Of these 3% took 2 mg tablets, 15% took 10 mg tablets while 82% ingested 5 mg tablets. Of the 154 subjects who took 5 mg diazepam tablets, 47% ingested between 20-30 tablets, 30% took betwen 1-19 tablets. 23% ingested more than 30 tablets and 8 subjects ingesting more than 100 tablets.

As far as the access to the benzodiazepines was concerned in 44% cases they were present in homes (41 males arid 70 females) while an almost equal number - 44% (63 males and 50 females) bought the benzodiazepine 'OTC' from a chemist. In a small number of cases (9%) the benzodiazepine had been prescribed to the patient. More females (64%) either took the benzodiazepine that was present in the home or prescribed to them than males (41%) who bought the drug 'OTC' from a medical store (55%). Majority of the benzodiazepine self-poisoning cases (80%) did not have any serious complications and were discharged within 3 days of admission. Twenty percent had to stay longer than 3 days. There were no fatalities from benzodiazcpine poisoning. The gender was significantly associated with benzodiazcpine ingestion (chi sq. = 11.64, p<0.05), access to diazepam (but not to other bcnzodiazepincs) (chi sq. = 13.45, p <0.005) and the number of tab lets ingested (chi sq. = 44. 1, p<0.000 1). There was also a significant association between benzodiazepine self-poisoning and previous attempt (chi sq. = 19.86, p<0.05) and bctwccn access to bcnzodiazepine and number of tablets (chi sq. = 68.86. p<0.01).

Discussion

In Pakistan, most drugs including benzodiazcpines are available OTC. There are almost 50 different brands of bcnzodiazepines available in the market, 10 of which are of diazepam alone. They are particularly popular as 'sleeping pills' and 'tension relicvers'. The average price of 30 tablet pack of 5 mg diazepam (its usual packing) is about Rupees 16. (approx. 50 cents), which is inexpensive even given the low per capita income in Pakistan. Its affordability may have contributed to the high incidence in self-poisoning cases in this study. It is extremely easy for someone to walk into a medical store and ask for a packet of diazepam. The salesman who is rarely a qualified chemist hardly ever asks any questions and dispenses the drug quite readily. Majority of subjects in this study took a packet of diazepam 5 mg tablets and almost 44% bought the drug OTC horn a medical store for the purpose of overdose.

The preference for benzodiazepines over analgesics in our study is somewhat puzzling. Analgesics are equally frcely available in Pakistan. This is in contrast to the nrnny studics of parasuicide from the West

which have shown an equal distribution between minor tranquillisers and analgesics[1]. Recently, though a high and increasing frequency of self-poisoning with paracetainol has been reported from Britain, which is related to it's accessibility[9]. In this context the motives that underlie many parasuicide acts may help in understanding the high incidence of benzodiazepine self-poisoning in this study.
Research has shown that the motives forparasuicidc can be subsumed under 3 categories; cessation (stopping conscious experience forever i.e., death); interruption (to interrupt conscious experience for a while, to sleep, not to feel anything forawhile) and appeal to mobilize others or induce a change in their behaviour). Most parasuicidies are motivated by a combination of interruption and appeal[10,11].
If one of the main motives of parasuicidal acts is of interruption of conscious experiences (i.e. to 'sleep') and benzodiazepines are thought of as 'sleeping pills' (sleep being equated with loss of consciousness) then it is understandable why so many patients in our study resorted to benzodiazepines. Analgesics being 'pain killers' may not give the mental relief desired by so many of the patients. This observation needs to be explored further as other factors such as the educational background of the patients and the infommtion available to them about the drugs may also play a part. This leads to the much more complex issue of prevention of medication self-poisoning.
Benzodiazepines are useful as short term treatment in a variety of anxiety disorders and in considering prevention one must consider how they can remain available yet be used less for self-poisoning. In this context there are two issues to consider:
if any preventive programmes for medication self-poisoning are to be implemented in Pakistan then one of the areas to consider could be in the education of the 'chemist' at the medical store. Although available OTC, technically speaking, all medication including analgesics and vitamins are actually dispensed by the 'chemist', as no medicine is kept on shelves for the person to pick up him/herself Given the impulsive nature of many parasuicidal acts even a few relevant questions before the drugs is dispensed may dissuade many potential parasuicides.
Similarly restricting the number of tabletes that are dispensed at any one time may also make the overdose less dangerous. In this study almost half the subjects took between 20 and 30 tablets. This wouldbe consistentwith the availablity ofdiazepam in packets of 3O tablets. Hawtonet al[9] recommend a similar strategy for reducing the harmful effects of paracetainol (available OTC in Britain) self-poisoning. Secondly, the question of method substitution must be taken into account. It is well known that when one method of suicide is restricted people soon resort to other methods[9]. Although implicated in fatal poisonings[12], death from benzodiazepine poisoning (when taken alone) is relatively rare[13] and in fatal eases other drugs or alcohol have invariably been implicated[14]. Alcohol was not implicated in any of our eases and ever in societies where it is freely available it is hardly even involved in Muslim parasuicides[15]. Any method of reducing the frequency of benzodiazepine self-poisoning is, therefore, associated with prublematic question of what patients niight do instead. One risk is that some might use another but morn dangerous method of self- harm. Organophosphorous compounds have been reported in other studies and are available in most homes in Pakistan[6,8,16]. Restricting the OTC availability of benzodiazepines may increase the incidence of poisoning with these compounds or analgesics, with more serious consequences.

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